

10 the oscillation of the reflector producing a scanning reflected light beam scanning
along a scan path;

 at least one sensor disposed in the scan path of the scanning reflected light beam
for producing a sensor signal when the scanning reflected light beam illuminates the
sensor; and

15 a control and drive system for receiving the sensor signal and thereby monitoring
the oscillation of the reflector, for producing a drive signal based on the oscillation of the
reflector, said drive signal having a drive amplitude, a drive frequency close to or at the
resonant frequency, and a drive offset, the drive signal being provided to the oscillator to
drive the oscillator causing mechanical oscillation at the drive frequency and at a desired
20 mechanical amplitude and offset.

14. (New) The scanning apparatus of claim 13 wherein the control and drive
system includes a power supply for providing power to the oscillator to oscillate the
reflector wherein the control and drive system controls the power supplied to the
oscillator to thereby control the oscillation of the reflector.

15. (New) The scanning apparatus of claim 14 wherein the control and drive
system controls the amplitude of the power supplied to the oscillator to control the
amplitude of oscillation of the reflector.

16. (New) The scanning apparatus of claim 14 wherein the control and drive
system controls the frequency of the power supplied to the oscillator to control the
amplitude of oscillation of the reflector.

17. (New) The scanning apparatus of claim 13 wherein the control and drive
system includes a power supply for providing power to the oscillator to oscillate the
reflector and wherein the control and drive system controls the power to the oscillator to
control the oscillation of the reflector, the control and drive system setting the frequency
5 of power provided to the oscillator at a frequency that is offset from the resonant
frequency by a frequency offset.

18. (New) The scanning apparatus of claim 17 wherein the control and drive system controls the amount of the frequency offset to maintain the oscillation of the reflector at a desired oscillation amplitude.

19. (New) The scanning apparatus of claim 17 wherein the control and drive system controls the frequency of the power to maintain a constant frequency of oscillation and controls the amplitude of the power to control the amplitude of the reflector oscillation.

20. (New) The scanning apparatus of claim 13 wherein the reflector and the torsion spring mechanism are made of silicon crystal.

21. (New) The scanning apparatus of claim 13 wherein the control and drive system controls the frequency of the power to maintain a constant frequency of oscillation and controls the amplitude of the power to control the amplitude of the reflector oscillation.